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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,047	10/01/2004	Sadaaki Hirai	121324	8336

25944 7590 12/20/2006

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EXAMINER	
BALDWIN, GORDON	
ART UNIT	**PAPER NUMBER**
1775	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/20/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/510,047	HIRAI ET AL.	
	Examiner	Art Unit	
	Gordon R. Baldwin	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 September 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-56* is/are pending in the application.

4a) Of the above claim(s) *41-56* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20041001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 21-40 in the reply filed on 9/26/2006 is acknowledged. The traversal is on the ground(s) that all of the subject matter of claims 21-56 are related and would not cause a burden to the examiner. This is not found persuasive because the two groups lack the same inventive feature as mentioned in the restriction requirement. Applicant has not argued that the two groups do include the same inventive feature, therefore the restriction stands.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 21, 22, 25, 26, 29, 31, 33, 35, 37, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueda (U.S. Pat. No. 6,242,072).

Consider claims 21, 22, 31, 37, Ueda teaches a cordierite (considered to be ceramic) honeycomb structure that is used in exhaust gas purification (Col. 8 lines 1-5) with a plurality of flow passages (Fig. 1A, 1C and 2B). The honeycombs sections are also taught to have a reducing porosity at one or both ends with respect to the general section (19) for increasing the density of the fortified section (2) (Fig. 2B). (Col. 2 lines

50-64) Additionally, The fortified section is formed by an increase in density and it is preferred to for the fortified section so as to have a gradually reducing porosity for gradually increasing the strength from the general section toward the edge. This orientation is considered to teach a lessened porosity at the inflow portion of the honeycomb section with greater porosity at the outflow, through the general section (19). As for the porosity per unit volume increasing at a rate of 0.2%/mm or 0.1 %/ mm, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the rate of increase of porosity for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Consider claims 25 and 26, the adjustment of the porosity per unit volume of up to 150mm is 10-50% is considered to be obvious to one having ordinary skill in the art at the time of the invention to adjust the porosity percentage of a certain area for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Consider claim 29, Ueda teaches that partition walls can be as thin as 30 micrometers to as much as 100 micrometers. (Col. 3 lines 20-35)

Consider claim 33, Ueda teaches that the honeycomb is to be in a circular shape (Fig. 1a).

Consider claim 35, while Ueda only teaches the section of the cell perpendicular to the flow being in a circular shape (Fig. 1a), the changing of the shape to a triangle,

tetragon or hexagon are only considered to relate to ornamentation and are not shown to have a mechanical function and cannot patentably distinguish the claimed invention from the prior art. In re Seid, 161 F.2d 229, 73 USPQ 431 (CCPA 1947) Additionally, the shapes are also considered to be obvious to a person of ordinary skill in the art due to the shape being considered a mere design choice.

Consider claim 39, Ueda teaches that the honeycomb is a catalyst carrier and that the catalyst is carried on the partition walls (90) of the honeycomb body structure (9). (Col. 1 lines 10-20)

Claims 23, 24, 27, 28, 30, 32, 34, 36, 38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito (U.S. Pub. No. 2001/0003728).

Consider claims 23, 24, 32, 34, 38, Ito teaches a circular (Fig. 1) cordierite (ceramic) honeycomb structure (Para. 38-39) used to purify exhaust gases (of automobiles) (Para. 37) which has teaches in figure 2, a peripheral wall 12 as well as an outer peripheral section 112 of said lattice walls 11 locatg4ed in the vicinity of said peripheral wall contain a densified portion of smaller porosity than that of an inner peripheral portion 111 of said lattice walls 11 which is located inside said outer peripheral portion 112. (Para. 38 and claim 1) However, Ito does not specifically teach the porosity per unit volume increasing at a rate of 0.2%/mm or 0.1 %/ mm from the inner to the outer portion of the honeycomb structure. However, it would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the rate of increase of porosity for the intended application, since it has been held that

discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Consider claims 27 and 28, the adjustment of the porosity per unit volume of up to 150mm is 10-50% is considered to be obvious to one having ordinary skill in the art at the time of the invention to adjust the porosity percentage of a certain area for the intended application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Consider claim 30, Ito teaches that the lattice walls (11) can have a thickness of 60 micrometers. (Para. 47)

Consider claim 36, while Ito only teaches the section of the cell perpendicular to the flow being in a circular shape (Fig. 1), the changing of the shape to a triangle, tetragon or hexagon is only considered to relate to ornamentation and is not shown to have a mechanical function and cannot patentably distinguish the claimed invention from the prior art. In re Seid, 161 F.2d 229, 73 USPQ 431 (CCPA 1947) Additionally, the shapes are also considered to be obvious to a person of ordinary skill in the art due to the shape being considered a mere design choice.

Consider claim 40, Ito teaches that a catalyst component is supported by the ceramic honeycomb structural body, which is considered to include the outer peripheral surface of the outer wall and the partition walls. (Para. 33)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon R. Baldwin whose telephone number is (571)272-5166. The examiner can normally be reached on M-F 7:45-5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GRB

JENNIFER MCNEIL
SUPERVISORY PATENT EXAMINER
12/11/06